

glands, whose openings are beneath the tegmina of the male, and then fertilizes her ova?"

Dr. Howard, in his "Insect Book," says with reference to *O. niveus*: "Harrington has watched one of the concerts closely, and says, 'An interesting feature of its concerts is one of which I have not been able to find any mention in books accessible.' While the male is energetically shuffling together his wings raised almost vertically, the female may be seen standing just behind him, and, with her head applied to the base of the wings, evidently eager to get the full benefit of every note produced." The observer mentioned, no doubt, found the insects after pairing and while the female was feeding on the glands. When rather suddenly approached she will cease gnawing and sit perfectly still, while the male may continue singing until she begins again.

The tree-cricket in appearance, in graceful flight, in song and in general habits certainly are worthy of the place that they occupy systematically at the head of the Orthoptera. They are the aristocrats, the accomplished gentlefolk of the Order.

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### A NEWPORTIA IN UTAH.

BY RALPH V. CHAMBERLIN, PROVO, UTAH.

The Chilopod genus *Newportia* was erected in 1847 by Gervais for the species *Scolopocryptops longitarsis* of Newport, a form now known to occur in Cuba, St. Vincent, Central America, Colombia, Venezuela, and Brazil. Since that time some fifteen additional species belonging to the genus have been described, all of them from the region within the tropics of America, the general range of the genus corresponding roughly with that of the type species. It was, consequently, a matter of no little interest to find an individual representing a well-defined species of this genus as far north as Salt Lake City. Most of the species are thus far known from one or from but few individuals.

The genus *Newportia* belongs to the Cryptopinæ, the lowest of the three subfamilies of the Scolopendridæ. In common with the other genera of this subfamily eyes are absent in *Newportia*, and the tarsi of all the ambulatory legs, excepting the last two, consist each of but a single segment, the under surface of which bears a spine or a row of bristles. From the other genera of the Cryptopinæ, *Newportia* may be readily distinguished through the presence of twenty-three pairs of ambulatory legs,

of which the last have become peculiarly specialized, having the tarsi slender or thread-like, and divided into a large number of short segments, being antenniform rather than like ordinary legs. Claws are normally absent from these last tarsi; but an individual has been found in which claws are present, this case probably representing an atavism to the more general Cryptops-like form from which specialization has proceeded in the group. In *Newportia* there are no teeth on the inner side of the femora of the prehensorial or poison feet. All the dorsal plates are marked with two impressed longitudinal lines or furrows, one each side of the middle, while on most of the plates there is outside of each of these an oblique furrow. The first dorsal plate is characteristically marked with a transverse furrow, which in most species is angularly bent backward at the middle. In some species the plate is distinctly depressed into a pit at this angle in the cervical line or furrow. In about half of the known species the two median furrows of the first dorsal plate bifurcate, the two inner of the diverging branches running inwardly and forward and meeting at the middle angle of the cervical line. A W-shaped mark is thus formed. (See Fig. 2.)

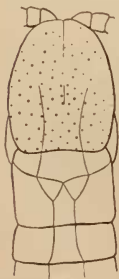


FIG. 2.—*Newportia Utahensis*: dorsal view of head and anterior segments.

The species of *Newportia* found in Utah is clearly most closely related to *Newportia azteca*, Humb. and Sauss. (*spinipes*, Poc.), the species ranging nearest it geographically. These two species differ from all the others with the W marking on the first dorsal plate, in having two spines at the distal end of the tibial joint of the legs, and in having at the same time a ventral spine below the apex of the tarsal joint. The Utah species differs from *azteca*, among other points, in the shape and proportions of the head plate and in the greater length and different disposition of its posterior furrows; in lacking dental plates, and in not having the anterior border of the presternum mesally deeply

excavated; in having the last ventral plate more narrowed posteriorly, and its posterior margin but slightly incurved; in having the pseudo-pleura of the last segment covered with numerous spinules, both laterally and ventrally, among the pores, as well as along the posterior margins and over the basal portion of the posterior processes; and in the form and size of the spiracles.

*Newportia Utahensis*, new species.—Head longer than wide, its sides converging a little posteriorly and more strongly anteriorly from the middle; marked with a median longitudinal furrow extending from the anterior, slightly indented margin, posteriorly about one-fourth the length of the plate, and with a second short median furrow just back of the middle; the paired furrows on the posterior portion of plate beginning near the middle and first converging and then diverging to the posterior margin, evenly curving; finely punctate.

Antennæ with the usual seventeen articles, the first four of them sparsely clothed with relatively long bristles, the other articles subdensely clothed on their outer surfaces with short setæ.

Presternal plate punctate, its anterior margin on each side sub-straight, the margins of the two sides meeting in the middle at a slightly re-entrant angle; no median excavation.

First dorsal plate with the transverse or cervical furrow evenly curving, a little angulate at the middle; a depression or pit at the angle of the cervical furrow; the paired furrows bifurcating, the inner branches uniting at the angle in the cervical furrow, and forming thus the typical W-shaped impression.

The longitudinal furrows on the second dorsal plate conspicuously diverging from the anterior to the posterior margin.

The oblique, shallow lateral furrows are distinguishable from the third plate posteriorly.

The last dorsal plate with its posterior margin gently convexly rounded and slightly indented at the middle; without a median furrow.

Ventral plates finely and subdensely punctate; each with a distinct and scarcely abbreviated and distinct, fine submarginal furrows.

Last ventral plate with the sides sub-straight or a little convexly rounded; strongly narrowed posteriorly; the posterior margin but slightly incurved.

Basal segments of the ambulatory legs spinulose; the tibia armed at distal end with a conspicuous ventral spine, as well as with a second somewhat stouter spine dorsal or dorso-lateral in position; tarsal joint with a ventral spine below the distal end.

Pseudopleura of last segment with their posterior processes conical in shape, apically subobtuse; posterior margin above and laterally from the processes with a close row of short spines, which also cover the basal portion of the processes; similar short spines occurring over the entire

pseudopleura, both laterally and ventrally, among the numerous small pores.

Spiracles moderately small, mostly obliquely suboval.

The head and last five segments brown, a little paler beneath than above; elsewhere the body yellow, the anterior segments being darkened a little; legs pale yellow; antennæ light brown proximally, becoming yellow distally.

Length, 21 mm.

Locality: Warm Springs, Salt Lake County, Utah (May, 1908).

## HEMIPTERA: NEW AND OLD.—NO. I.

BY G. W. KIRKALDY, HONOLULU, HAWAIIAN ISLANDS.

### Fam. Aradidæ.

1. *Aradus montivagus*, nom. nov., = *planus*, Fabricius, 1803 (not of the same author, 1794).

### Fam. Lygæidæ.

2. *Acanthocephala nasula* (Say) = || *femorata* (Fabricius).
3. *Cletus signatus*, Walker, 1871, = || *bipunctata* (Westwood, 1842).
4. *C. bipunctatus*, H.-S., 1840, = *pugnator*, Lethierry & Severin, 1894, = *armatulus*, Breddin, 1905.

*C. pugnator* was merely a misidentification of a Fabrician species, and was, moreover, unaccompanied by a description.

5. *Arenocoris*, Hahn, 1834, = *Pseudophloeus*, Burmeister, 1835, = *Spathocera*, Stein, 1860.

*Pseudophloeus* was proposed to supersede *Arenocoris* because the latter was, etymologically, a hybrid; it therefore must take the same type.

6. *Ulmicola*, nom. nov., = *Arenocoris*, Fieber, 1860, type *spinipes*.
7. *Coriscus Stalianus*, nom. nov., = || *Alydus dentipes*, Stal, 1868, Svensk. Vet. Handl., 7, No. 11, p. 65.

8. *Merocoris*, Perty, 1833 (not 1830).

*Coriomeris*, Westwood, 1842, = || *Merocoris*, Hahn, 1834 (not 1831).

[Fam. Cimicidæ: *Plisthenes*, = || *Merocoris*, Burmeister, 1834.]

9. *Riptortus nipponensis*, n. n., *11-clavatus*, Thunb., 1783, = *11-annulatus*, Uhler, 1860.

10. *Boudicca*, nom. nov., = *Pseudophloeus*, Auctt., type *Fallenii*.